DEP/REF

Attorney Docket No.: 032405.167

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Mitsugi CHONAN, et al.

Serial No.: 10/807,457

Filed: March 24,2004

For: POWER TRANSMISSION SYSTEM OF ENGINE

Confirmation No.: 2933

Art Unit: 3681

Examiner: David D. LE

REQUEST FOR REFUND

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Per the attached Fee Sheet, the USPTO charged a $200.00 Extra Independent Fee relative to the February 21, 2006 filing. However, Applicants records reflect that there were only three (3) Independent Claims filed in the Amendment. The Independent Claim numbers filed in the February 21, 2006 Amendment are: Claims 1, 10 and 11 (See the attached PAIR print-out of the USPTO Fee Determination record for that Amendment).

Thus, it is respectfully submitted that the extra claim charge was in error and it is requested that a refund of $200.00 be deposited to Deposit Account No. 02-4300.

Respectfully submitted,
SMITH GAMBRELL & RUSSELL, L.L.P.

By: _____

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Date: August 28, 2006

DCR:ww
Attachment: USPTO Claim Fee Determination Record

AUG 2 8 2006

PATENT APPLICATION FEE DETERMINATION RECORD
Effective October 1, 2003

Application or Docket Number: 10807457

CLAIMS AS FILED - PART I

	(Column 1)	(Column 2)
TOTAL CLAIMS	4	
FOR	NUMBER FILED	NUMBER EXTRA
TOTAL CHARGEABLE CLAIMS	4 minus 20=	*
INDEPENDENT CLAIMS	1 minus 3 =	*
MULTIPLE DEPENDENT CLAIM PRESENT		☐

* If the difference in column 1 is less than zero, enter "0" in column 2

SMALL ENTITY TYPE ☐			OR	OTHER THAN SMALL ENTITY	
RATE	FEE			RATE	FEE
BASIC FEE	385.00		OR	BASIC FEE	770.00
X$ 9=			OR	X$18=	
X43=			OR	X86=	
+145=			OR	+290=	
TOTAL			OR	TOTAL	770.

2/21/6

CLAIMS AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	* 12	Minus	** 20	=
Independent	* 4	Minus	*** 3	= 1
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

SMALL ENTITY			OR	OTHER THAN SMALL ENTITY	
RATE	ADDITIONAL FEE			RATE	ADDITIONAL FEE
X$ 9=			OR	X$18=	
X43=			OR	X86=	200
+145=			OR	+290=	
TOTAL ADDIT. FEE			OR	TOTAL ADDIT. FEE	200

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

AMENDMENT C

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA
Total	*	Minus	**	=
Independent	*	Minus	***	=
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM				☐

RATE	ADDITIONAL FEE		RATE	ADDITIONAL FEE
X$ 9=		OR	X$18=	
X43=		OR	X86=	
+145=		OR	+290=	
TOTAL ADDIT. FEE		OR	TOTAL ADDIT. FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20."
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3."
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

PTO/SB/21 (09-04)
Approved for use through 07/31/2006. OMB 0651-0031
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission	12

Application Number	10/807,457
Filing Date	March 24, 2004
First Named Inventor	Mitsugi **CHONAN**, et al.
Art Unit	2933
Examiner Name	David D. Le
Attorney Docket Number	**032405R167**

ENCLOSURES ***(check all that apply)***

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment / Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☐ Information Disclosure Statement
- ☐ Certified Copy of Priority Document(s)
- ☐ Reply to Missing Parts/ Incomplete Application
  - ☐ Reply to Missing Parts under 37 CFR1.52 or 1.53
- ☐ Drawing(s)
- ☐ Licensing-related Papers
- ☐ Petition
- ☐ Petition to Convert to a Provisional Application
- ☐ Power of Attorney, Revocation Change of Correspondence Address
- ☐ Terminal Disclaimer
- ☐ Request for Refund
- ☐ CD, Number of CD(s) ____
  - ☐ Landscape Table on CD
- ☐ After Allowance Communication to TC
- ☐ Appeal Communication to Board of Appeals and Interferences
- ☐ Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- ☐ Proprietary Information
- ☐ Status Letter
- ☒ Other Enclosure(s) *(please identify below)*:
  - Request for Refund
  - Copy of Amendment dated 2/21/2006
  - Copy of USPTO Patent Application Fee Determination Record

Remarks

NO FEES SUBMITTED

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm	Smith, Gambrell & Russell, LLP		
Signature			
Printed Name	Dennis C. Rodgers		
Date	August 28, 2006	Reg. No.	32,936

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Signature			
Typed or printed name		Date	

As Printed from PAIR
8/21/06

PATENT

Attorney Docket No. 032405R167

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Mitsugi CHONAN, et al.

Serial No.: 10/807,457 Group Art Unit: 3681

Filed: March 24, 2004 Examiner: David D. Le

For: POWER TRANSMISSION SYSTEM OF ENGINE

AMENDMENT

Commissioner for Patents
PO Box 1450
Alexandria VA 22313 - 1450

Sir:

In response to the Office Action of October 21, 2005, please amend the above-identified application and consider the Remarks set forth below. Included herewith is a Petition to extend the response period for one month, up to and including February 21, 2006, along with a check for payment of the requisite fee.

COPY

IN THE SPECIFICATION

Please amend the specification as follows:

Please amend Page 8, lines 8-13 as follows.

Then, when a recoil knob 45a fixed to the end of the recoil rope [46] 45 is pulled to rotate the recoil pulley 46, an engaging member is engaged with a recoil drum 47 mounted on the sub-shaft 31 to rotate the crankshaft 12 via the sub-shaft 31, whereby the engine 13 can be started also by hand.

Please amend Page 10, lines 3-5 as follows.

The primary shaft 58 has a fixed sheave 62a shaped into a conical surface 61a and a movable sheave [62a] 62b shaped into a conical surface 61b and opposed to the fixed sheave 62a

Please amend Page 10, lines 10-13 as follows.

On the other hand, the secondary shaft 59 has a fixed sheave 64a shaped into a conical surface 63a and a movable sheave [64a] 64b shaped into a conical surface 63b and opposed to the fixed sheave 64a.

Please amend Page 11, lines 1-6 as follows.

Then, a cam surface 67 is formed on the moving sheave [62] 62b in correspondence with the centrifugal weights 66 on a surface opposite to the conical surface 61b and the outside portion of the cam surface 67 in a radial direction of the moving sheave 62b expands out toward the end of the primary shaft 58.

Please amend Page 13, lines 16-20 as follows.

The front wheel driving shaft 82 is provided with a bevel gear 83 and a ~~front wheel~~ driving shaft 85 provided with a bevel gear 84 engaged with the bevel gear 83 is rotatably supported by a support member 86 and the support member 86 is mounted on the case body 55a and the gear case 71.

Please amend Page 16, lines 9-17 as follows.

When the switching plate 89 is operated by the switching [leer] lever 6 to a forward position, that is, to an F-position, the engaging teeth 87c of the switching disk 87a are engaged with the engaging teeth 75a of the gear 75. On the other hand, the switching plate 89 is operated by the switching [leer] lever 6 to a retracted position, that is, to an R-position, the engaging teeth 87d of the switching disk 87b are engaged with the engaging teeth 77a of the sprocket 77.

Please amend Page 17, lines 23-27 as follows.

In order to brake the running vehicle, as shown in FIG. 2, the output shaft 72 is mounted with a [bake] brake disk 100 and the gear case 71 is provided with a brake holder 101 for activating a brake pad (not shown) to be put into contact with the brake disk 100.

COPY

IN THE CLAIMS:

Please amend the claims as follows:

1. (currently amended) A power transmission system of an engine for transmitting engine power to a driving wheel, said power transmission system comprising:

a crankshaft driven by [[an]] the engine, said crankshaft being arranged in a vehicle body in a widthwise direction of the vehicle body;

a sub-shaft which is arranged parallel to said crankshaft and non-concentric with the crankshaft and to which the rotation of said crankshaft is transmitted via a rotary transmission member; and

a belt type continuously variable transmission including a primary shaft arranged concentrically with said sub-shaft and provided with a primary pulley having a variable groove width and a secondary shaft; said secondary shaft being provided with a secondary pulley coupled to said primary pulley via a belt and having a variable groove width,

wherein the rotation of said crankshaft is transmitted to said primary shaft via said sub-shaft arranged parallel to said primary shaft, and

a clutch member is arranged between said sub-shaft and said primary shaft.

2. (canceled)

3. (currently amended) The power transmission system of an engine according to claim 1, wherein said crankshaft is mounted with a generator ~~and wherein said sub-shaft is mounted with a recoil starter~~.

4. (currently amended) The power transmission system of an engine according to claim [[2]] 3, ~~wherein said crankshaft is mounted with a generator and~~ wherein said sub-shaft is mounted with a recoil starter.

5. (new) The power transmission system of an engine according to claim 1, wherein said crankshaft is arranged in front of said primary shaft in a longitudinal direction of the vehicle body.

6. (new) The power transmission system of an engine according to claim 1, wherein said secondary shaft is arranged behind said primary shaft in a longitudinal direction of the vehicle body.

COPY

7. (new) The power transmission system of an engine according to claim 1, wherein said rotary transmission member is a pair of gears mounted on said sub-shaft ~~and said crankshaft~~.

8. (new) The power transmission system of an engine according to claim 1, comprising:

a crankcase that mounts said crankshaft, and

wherein said clutch member is arranged in said crankcase.

9. (new) The power transmission system of an engine according to claim 8, wherein said clutch member is a centrifugal clutch.

10. (new) A power transmission system of an engine for transmitting engine power to a driving wheel, said power transmission system comprising:

a crankshaft driven by the engine, said crankshaft being arranged in a vehicle body in a widthwise direction of the vehicle body;

a sub-shaft which is arranged parallel to said crankshaft and to which the rotation of said crankshaft is transmitted via a rotary transmission member; and

a belt type continuously variable transmission including a primary shaft arranged concentrically with said sub-shaft and provided with a primary pulley having a variable groove width and a secondary shaft; said secondary shaft being provided with a secondary pulley coupled to said primary pulley via a belt and having a variable groove width,

wherein the rotation of said crankshaft is transmitted to said primary shaft via said sub-shaft arranged parallel to said primary shaft; and

said crankshaft is mounted with a generator.

11. (new) A power transmission system of an engine for transmitting engine power to a driving wheel, said power transmission system comprising:

a crankshaft driven by the engine, said crankshaft being arranged in a vehicle body in a widthwise direction of the vehicle body;

a sub-shaft which is arranged parallel to said crankshaft and to which the rotation of said crankshaft is transmitted via a rotary transmission member; and

a belt type continuously variable transmission including a primary shaft arranged concentrically with said sub-shaft and provided with a primary pulley having a variable groove width and a secondary shaft; said secondary shaft being provided with a secondary pulley coupled to said primary pulley via a belt and having a variable groove width,

wherein the rotation of said crankshaft is transmitted to said primary shaft via said sub-shaft arranged parallel to said primary shaft; and

said sub-shaft is mounted with a recoil starter.

12. (new) The power transmission system of an engine according to claim 1, wherein said sub-shaft is mounted with a recoil starter.

13. (new) The power transmission system according to claim 8, wherein said clutch member is a centrifugal clutch.

REMARKS

Reconsideration of the Office Action of October 21, 2005 is respectfully requested.

Accompanying this Office Action is an Information Disclosure Statement with certification under 1.97(e)(2) and a one month extension of time with requisite fee.

To summarize the claim changes made in this amendment, claims 1, 3 and 4 have been amended and new claims 5-13 have been added. Claim 2 has been canceled. No new matter is considered to be presented by these amendments and new claims in view of the support contained in the original filed application.

In the present Amendment, the specification has also been amended, which amendments are in accordance in many respects with the Examiner's comments contained in the Office Action. No new matter is considered to be presented by these amendments.

SUMMARY OF THE PRESENT INVENTION

The present invention relates to a power transmission arrangement of, for example, an all terrain vehicle (ATV) with a continuously variable transmission (CVT).

In a conventional power transmission arrangement for an ATV, the crankshaft, the clutch and the primary shaft of CVT are arranged concentrically. The power transmission is thus elongated in size in the lateral direction of the ATV, and getting on and off on the ATV is difficult. See BACKGROUND OF THE INVENTION.

The present invention describes an arrangement that provides for an advantageous shortening of the width of the power transmission of, for example, an ATV.

In the present application, the transmission has a three-axis structure constructed by the crankshaft, the primary shaft (and the sub-shaft) and secondary shaft with the sub-shaft being arranged parallel and non-concentric relative to the crankshaft. Furthermore, the clutch member is arranged between the primary shaft and the sub-shaft. This makes the transmission system narrow in the lateral direction which is helpful in, for example, an ATV as it provides easy access for the driver.

Claim Rejections Under 35 U.S.C. §112

In the Office Action claims 1-4 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly the subject matter which applicant regards as the invention.

Claim 1 is amended according to the Examiner's instruction. "[A] engine" is replaced by the limitation "the engine" to provide a clearer antecedent relative to this environmental subject matter of claim 1. Hence, claim 1 and dependent claims 2-4 are respectfully submitted to be in full conformance with 35 U.S.C. §112.

Claim Rejections Under 35 U.S.C. §102

In the Office Action claim 1 was rejected under 35 U.S.C. §102(b) as being anticipated by Chana (US 4,504,247), and also by Lupo (US 4,304,150).

Applicants respectfully submit that Chana and Lupo fail both individually and in combinaton to disclose or suggest the features of the present invention.

For example, claim 1 has the following features:

a) the three-axes of the crankshaft, the sub-shaft (and the primary shaft) and the secondary shaft, with the sub-shaft being arranged parallel and non-concentric with the crankshaft.

b) the clutch member is provided between the primary shaft and the sub-shaft.

These features are not disclosed in either of the cited documents above.

Therefore, claim 1 and dependent claims are respectfully submitted to be patentable over the cited prior art.

Claim Rejections Under 35 U.S.C. §103

Claim 2 was rejected under 35 U.S.C. §103(a) as being unpatentable over Lupo in view of Chana.

As mentioned above, claim 2 is canceled in this response, and for the reasons set forth above amended claim 1 is submitted to be patentable over the prior art.

Claims 3-9 and 12-13 are dependent claims of claim 1. Therefore, Applicants respectfully submit that these claims are also currently patentable.

Allowable Subject Matter

Claims 10 and 11 are rewritten in independent form and based on the claims that include allowable subject matter in the last Office Action. These claims have also been amended to include "a secondary shaft" reference prior to "said secondary shaft". Accordingly, claims 10 and 11 stand in condition for allowance.

In view of the above remarks, Applicants submit that the rejections are overcome. Hence, reconsideration and withdrawal of the rejection are respectfully requested.

Also, Applicants respectfully submit that this Amendment and the above remarks obviate the outstanding rejections in this case, thereby placing the application in condition for immediate allowance. Allowance of this application is earnestly solicited.

If any fees are due in connection with the filing of this Amendment, such as fees under 37 C.F.R. §§1.16 or 1.17, please charge the fees to Deposit Account 02-4300; Order No. 032405.167

Respectfully submitted,

SMITH, GAMBRELL & RUSSELL, LLP

By: _____

Dennis C. Rodgers, Reg. No. 32,936
1850 M Street, N.W., Suite 800
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Telephone: (202) 263-4300
Facsimile: (202) 263-4329

Dated: February 21, 2006

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Attorney Docket No.: 032405.167

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SMITH GAMBRELL & RUSSELL, L.L.P.

By: _____

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Date: August 28, 2006

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Adjustment date: 09/25/2006 ZJUHAR1
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